Directional Control Valves



Enerpac hydraulic valves are available in a wide variety of models and configurations.

Whatever your requirements... directional control, flow control, or pressure control... you can be sure that Enerpac has the correct valve to match your application exactly.

Designed and manufactured for safe operation up to 700 bar, the range of Enerpac valves allows for direct pump mounting, remote mounting, manual or solenoid actuation, and in-line installation, giving you flexible solutions to control your hydraulic system.



Pressure and Flow Control Valves

For more hydraulic system control with pressure relief valves, shutoff valves, check valves and

sequence valves see our "System Components".

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Valving Help

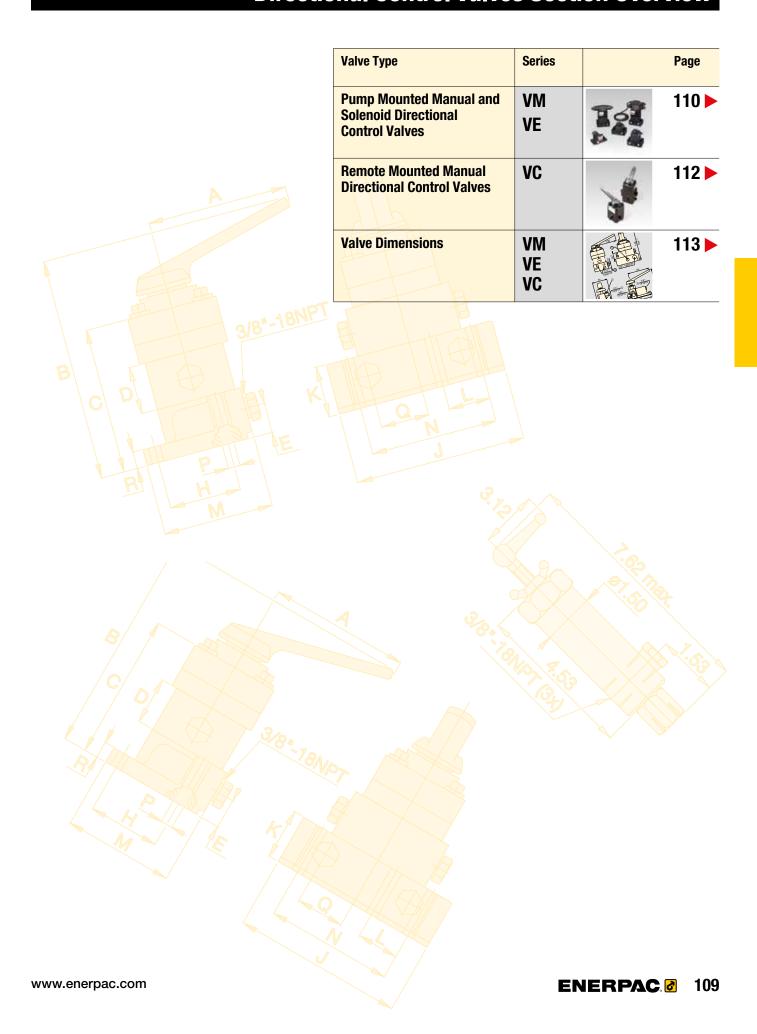
See Basic System Set-Up and Valve Information in our 'Yellow Pages'.

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Directional Control Valves Section Overview



Pump Mounted Directional Control Valves



▼ Shown from left to right: VM32, VE33, VM33, VM43L, VE43



- Advance/Retract and Advance/Hold/Retract operation of single-and double-acting cylinders and tools
- Manual or solenoid operation
- Pump mounting will retrofit on most Enerpac pumps
- Available "locking" option on VM Series valves for load-holding applications
- Standard "locking" feature on VE Series 3-position valves
- User adjustable relief valve allows the operator to easily set the working pressure.
- ▼ Enerpac wind turbine levelling system with a VM-33L manual valve, used to accurately level the transition piece after installation on the foundation pile.



Reliable Control of Single and Double-Acting Cylinders and Tools

Valve Operation	Used with Valve Cylinder Type					
Manual	Single-acting	3-Way, 2-Position				
Manual	Single-acting	3-Way, 3-Position, Tandem Center				
Manual	Double-acting	4-Way, 3-Position, Tandem Center				
Manual	Single-acting	3-Way, 3-Position, Tandem Center, Locking				
Manual	Double-acting	4-Way, 3-Position, Tandem Center, Locking				
Solenoid 24 VDC	Single-acting	3-Way, 2-Position				
Solenoid 24 VDC	Single-acting	3-Way, 2-Position, Dump				
Solenoid 24 VDC	Single-acting	3-Way, 3-Position, Tandem Center				
Solenoid 24 VDC	Double-acting	4-Way, 3-Position, Tandem Center				
For remote valve information, see page 112.						

Pump Mounted Directional Control Valves



Adjustable relief valve

All valves feature several gauge ports for "system", A port and B port pressure monitoring. User

adjustable relief valves are included on all models to allow the operator to easily set the optimum working pressure for each application.

VM33 and VE43 valves include "System Check" feature, for more precise pressure holding and improved system control. The VM33 has improved porting which provides faster cylinder retraction while motor is running.

Locking Valves

For applications that require positive load holding, VM-Series valves (except VM32 valve) are available with a pilot-operated check valve. This option provides hydraulic locking of the load until the valve is shifted into the retract position.

VM VE Series



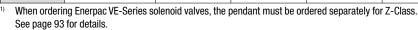
Maximum Flow Capacity:

17 I/min

Maximum Operating Pressure:

700 bar

Model Number	Hydraulic Symbol	Schematic Flowpath			À
Hallibor	Cy.11001	Advance	Hold	Retract	(kg)
VM32	P	P		P	2,5
VM33	P	P	P T	P	3,0
VM43	P B B	P	P T T	P	3,1
VM33L	P GP GP GA	P	P	P	4,8
VM43L	GB B B GA GA	A T T	P T T	A P B	4,9
VE32 ¹⁾	GP T	A A P	T P	A P	3,9
VE32D 1)	GP T T	A A T P P		A A P	3,9
VE33 ¹⁾	P A T				9,3
VE43 ¹⁾	P B B	A C B F F F F F F F F F F F F F F F F F F	A	A C C P P	9,3





Assisted Return Pumps

To improve productivity and plunger retraction Enerpac offers assisted return on ZU4 and ZE-Series

pumps featuring Enerpac Venturi valve technology, specifically to facilitate the faster return of single-acting gravity return cylinders. See **enerpac.com** for details.



Spring Centred Valve Kits

VM and VC-Series manual 3-position valves can be easily converted into spring centred valves. With these

retro-fit kits the handle will automatically move into the neutral valve position when released.

For valve model	Model Number
VM33, VM43	VMC3343K
VM33L, VM43L	VMC3343KL
VC3, VC15, VC4, VC20	VMC34K
VC3L, VC15L, VC4L, VC20L	VMC34KL

Remote Manual Directional Control Valves



▼ Shown from left to right: VC-20, VC-4L



Remote Control of Single and Double-Acting Cylinders and Tools



Locking Valves

For applications that require positive load holding, VC-Series valves are available with a pilot-operated check valve. This

option provides hydraulic locking of the load until the valve is shifted into the retract position.

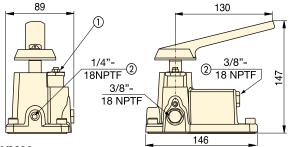
 Advance/Hold/Retract operation for use with single-acting or doubleacting cylinders and tools.

Valve Operation	Used with	Valve Type	Model Number	Hydraulic Symbol			Ā	
	Cylinder	76.			Advance	Hold	Retract	(kg)
Manual	Single-Acting	3-Way, 3-Position, Tandem Center	VC-3	A PT	A	A 4	A 4	2,9
Manual	Single-Acting	3-Way, 3-Position, Tandem Center, Locking	VC-3L		P	P	P T	4,7
Manual	Single-Acting	3-Way, 3-Position, Closed Center	VC-15	A PT	A. †	A \$	A 4	2,9
Manual	Single-Acting	3-Way, 3-Position, Closed Center, Locking	VC-15L		P	P	P T	4,7
Manual	Double-Acting	4-Way, 3-Position, Tandem Center	VC-4	A B PT	A	A , ‡ ,	A	2,9
Manual	Double-Acting	4-Way, 3-Position, Tandem Center, Locking	VC-4L		B A	P T T B	P	4,7
Manual	Double-Acting	4-Way, 3-Position, Closed Center	VC-20	A B P T	A T	A.Ł.	A.	2,9
Manual	Double-Acting	4-Way, 3-Position, Closed Center, Locking	VC-20L		B	B	P	4,7

Return line kit included with remote valves.

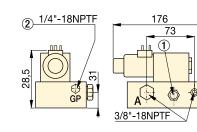
Directional Control Valves Dimensions

Pump Mounted Directional Control Valves



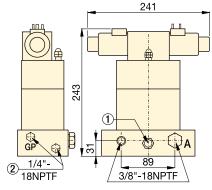
VM32

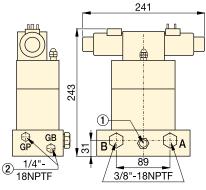
- ① User Adjustable Relief Valve
- ② Auxiliary Port



VM33, VM33L, VM43, VM43L ¹⁾ VM33L and VM43L only

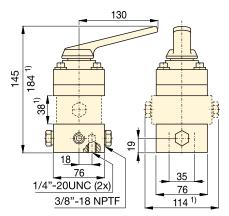






VE33 VE43

Remote Manual Directional Control Valves



VC-3, VC-3L, VC-15, VC-15L VC-4, VC-4L, VC-20, VC-20L

 $^{1)}$ VC-3L, VC-15L, VC-4L and VC-20L only

VM VE VC Series



Maximum Flow Capacity:

17 I/min

Maximum Operating Pressure:

700 bar



Spring Centred Valve Kits

VM and VC-Series manual 3-position valves can be easily converted into spring centred valves. With these retro-fit kits the

handle will automatically move into the neutral valve position when released.

For valve model	Model Number
VM33, VM43	VMC3343K
VM33L, VM43L	VMC3343KL
VC3, VC15, VC4, VC20	VMC34K
VC3L, VC15L, VC4L, VC20L	VMC34KL



Gauges

Minimize the risk of overloading and ensure long, dependable service from your equipment. Refer to the System Components

Section for a full range of gauges.

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Fittings

For additional fittings see the fitting page of the System Components section in this catalogue.

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Valving Help

See Basic System Set-Up and Valve Information in our 'Yellow Pages'.

